PE VCSO

634 USN

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 CORLEY, Neil C.; GUEGLER, Karl J.;
 BAUGHN, Mariah R.; LU, Dyung Aina M.;
 AZIMZAI, Yalda; YANG, Junming

Part of No. 14/A

## <120> HUMAN HYDROLASE PROTEINS

<130> PF-0634 USN

<140> US 09/831,455 <141> To Be Assigned

<150> PCT/US99/27009

<151> 1999-11-12

<150> US 60/135,519

<151> 1999-05-21

<150> US 60/172,256

<151> 1998-11-12

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Val Lys Ile Asp Pro Lys Ile His Pro
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Gly Val Leu Gly Gly Lys Leu Arg Gln Arg Leu Gly Leu Gln Leu
Leu Glu Leu Pro Pro Glu Glu Ser Leu Pro Leu Gly Pro Leu Leu
                                                          75
                                     70
                 65
Gly Asp Thr Ala Val Ile Gln Gly Asp Thr Ala Leu Ile Thr Arg
                                     85
Pro Trp Ser Pro Ala Arg Arg Pro Glu Val Asp Gly Val Arg Lys
                                    100
                 95
Ala Leu Gln Asp Leu Gly Leu Arg Ile Val Glu Ile Gly Asp Glu
                110
                                    115
Asn Ala Thr Leu Asp Gly Thr Asp Val Leu Phe Thr Gly Arg Glu
                                    130
                125
Phe Phe Val Gly Leu Ser Lys Trp Thr Asn His Arg Gly Ala Glu
                140
                                    145
Ile Val Ala Asp Thr Phe Arg Asp Phe Ala Val Ser Thr Val Pro
                                     160
Val Ser Gly Pro Ser His Leu Arg Gly Leu Cys Gly Met Gly Gly
                170
                                     175
Pro Arg Thr Val Val Ala Gly Ser Ser Asp Ala Ala Gln Lys Ala
                185
                                    190
Val Arg Ala Met Ala Val Leu Thr Asp His Pro Tyr Ala Ser Leu
                200
                                    205
Thr Leu Pro Asp Asp Ala Ala Ala Asp Cys Leu Phe Leu Arg Pro
                215
                                     220
Gly Leu Pro Gly Val Pro Pro Phe Leu Leu His Arg Gly Gly
                                     235
                230
Asp Leu Pro Asn Ser Gln Glu Ala Leu Gln Lys Leu Ser Asp Val
                245
                                     250
Thr Leu Val Pro Val Ser Cys Ser Glu Leu Glu Lys Ala Gly Ala
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Gly Leu Ser Ser Leu Cys Leu Val Leu Ser Thr Arg Pro His Ser
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Ala Cys Leu Leu Thr Gly Ser Leu Phe Val Leu Leu Arg Val Phe
                                     40
                 35
Ser Phe Glu Pro Val Pro Ser Cys Arg Ala Leu Gln Val Leu Lys
                                     55
Pro Arg Asp Arg Ile Ser Ala Ile Ala His Arg Gly Gly Ser His
                                     70
Asp Ala Pro Glu Asn Thr Leu Ala Ala Ile Arg Gln Ala Ala Lys
                                                          90
Asn Gly Ala Thr Gly Val Glu Leu Asp Ile Glu Phe Thr Ser Asp
                                    100
                                                         105
                 95
Gly Ile Pro Val Leu Met His Asp Asn Thr Val Asp Arg Thr Thr
                110
                                    115
Asp Gly Thr Gly Arg Leu Cys Asp Leu Thr Phe Glu Gln Ile Arg
                                    130
                125
Lys Leu Asn Pro Ala Ala Asn His Arg Leu Arg Asn Asp Phe Pro
                140
                                    145
Asp Glu Lys Ile Pro Thr Leu Arg Glu Ala Val Ala Glu Cys Leu
                155
                                    160
Asn His Asn Leu Thr Ile Phe Phe Asp Val Lys Gly His Ala His
                170
                                    175
Lys Ala Thr Glu Ala Leu Lys Lys Met Tyr Met Glu Phe Pro Gln
                185
                                     190
Leu Tyr Asn Asn Ser Val Val Cys Ser Phe Leu Pro Glu Val Ile
                                    205
                200
Tyr Lys Met Arg Gln Thr Asp Arg Asp Val Ile Thr Ala Leu Thr
                215
                                    220
His Arg Pro Trp Ser Leu Ser His Thr Gly Asp Gly Lys Pro Arg
                                    235
                230
Tyr Asp Thr Phe Trp Lys His Phe Ile Phe Val Met Met Asp Ile
                245
                                    250
Leu Leu Asp Trp Ser Met His Asn Ile Leu Trp Tyr Leu Cys Gly
                                    265
                260
Ile Ser Ala Phe Leu Met Gln Lys Asp Phe Val Ser Pro Ala Tyr
                275
                                    280
Leu Lys Lys Trp Ser Ala Lys Gly Ile Gln Val Val Gly Trp Thr
                                     295
                290
Val Asn Thr Phe Asp Glu Lys Ser Tyr Tyr Glu Ser His Leu Gly
                                     310
Ser Ser Tyr Ile Thr Asp Ser Met Val Glu Asp Cys Glu Pro His
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Phe

320

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325

				50					55					60
Leu	Gly	Ile	Pro	Phe 65	Ala	Gln	Pro	Pro	Leu 70	Gly	Pro	Asp	Arg	Phe 75
Ser	Ala	Pro	His	Pro 80	Ala	Gln	Pro	Trp	Glu 85	Gly	Val	Arg	Asp	Ala 90
Ser	Thr	Ala	Pro	Pro 95	Met	Суѕ	Leu	Gln	Asp 100	Val	Glu	Ser	Met	Asn 105
Ser	Ser	Arg	Phe	Val 110	Leu	Asn	Gly	Lys	Gln 115	Gln	Ile	Phe	Ser	Val 120
Ser	Glu	Asp	Cys	Leu 125	Val	Leu	Asn	Val	Tyr 130	Ser	Pro	Ala	Glu	Val 135
Pro	Ala	Gly	Ser	Gly 140	Arg	Pro	Val	Met	Val 145	Trp	Val	His	Gly	Gly 150
Ala	Leu	Ile	Thr	Gly 155	Ala	Ala	Thr	Ser	Tyr 160	Asp	Gly	Ser	Ala	Leu 165
			Gly	170					175					180
			Gly	185					190					195
			Phe	200					205					210
			Ala	215					220					225
			Ser	230					235					240
			Ala	245					250					255
_			Thr	260					265					270
			Lys	275					280					285
			Met	290					295					300
			Ser	305					310					315
			Thr	320					325					330
			Phe	335					340					345
			Ser	350					355					360
			Gln	365					370					375
			Thr	380					385					390
			Glu	395					400					405
			Phe	410					415					420
			Ser	425					430					435
			Tyr	440					445					450
Ile	Lys	Pro	Ala	Trp	Val	Lys	Ala	Asp	His	Gly	Ala	Glu	Gly	Ala

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455
                                    460
Phe Val Phe Gly Gly Pro Phe Leu Met Asp Glu Ser Ser Arg Leu
                470
                                    475
Ala Phe Pro Glu Ala Thr Glu Glu Glu Lys Gln Leu Ser Leu Thr
                485
                                     490
Met Met Ala Gln Trp Thr His Phe Ala Arg Thr Gly Asp Pro Asn
                500
                                     505
Ser Lys Ala Leu Pro Pro Trp Pro Gln Phe Asn Gln Ala Glu Gln
                515
                                     520
Tyr Leu Glu Ile Asn Pro Val Pro Arg Ala Gly Gln Lys Phe Arg
                                                         540
                530
                                     535
Glu Ala Trp Met Gln Phe Trp Ser Glu Thr Leu Pro Ser Lys Ile
                545
                                    550
Gln Gln Trp His Gln Lys Gln Lys Asn Arg Lys Ala Gln Glu Asp
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Ala Ser Ala Trp Gly Val Thr Leu Ser Pro Lys Asp Cys Gln Val
                 35
                                      40
Phe Arg Ser Asp His Gly Ser Ser Ile Ser Cys Gln Pro Pro Ala
                                      55
Glu Ile Pro Gly Tyr Leu Pro Ala Asp Thr Val His Leu Ala Val
                 65
                                      70
Glu Phe Phe Asn Leu Thr His Leu Pro Ala Asn Leu Leu Gln Gly
                 80
                                      85
Ala Ser Lys Leu Gln Glu Leu His Leu Ser Ser Asn Gly Leu Glu
                 95
                                    100
Ser Leu Ser Pro Glu Phe Leu Arg Pro Val Pro Gln Leu Arg Val
                110
                                    115
Leu Asp Leu Thr Arg Asn Ala Leu Thr Gly Leu Pro Pro Gly Leu
                125
                                    130
Phe Gln Ala Ser Ala Thr Leu Asp Thr Leu Val Leu Lys Glu Asn
                140
                                    145
Gln Leu Glu Val Leu Glu Val Ser Trp Leu His Gly Leu Lys Ala
                                    160
Leu Gly His Leu Asp Leu Ser Gly Asn Arg Leu Arg Lys Leu Pro
                170
                                     175
Pro Gly Leu Leu Ala Asn Phe Thr Leu Leu Arg Thr Leu Asp Leu
                                     190
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Gly Glu Asn Gln Leu Glu Thr Leu Pro Pro Asp Leu Leu Arg Gly
                200
                                     205
Pro Leu Gln Leu Glu Arg Leu His Leu Glu Gly Asn Lys Leu Gln
                                                         225
                215
                                    220
Val Leu Gly Lys Asp Leu Leu Leu Pro Gln Pro Asp Leu Arg Tyr
                                    235
                230
Leu Phe Leu Asn Gly Asn Lys Leu Ala Arg Val Ala Ala Gly Ala
                                     250
Phe Gln Gly Leu Arg Gln Leu Asp Met Leu Asp Leu Ser Asn Asn
                260
                                     265
Ser Leu Ala Ser Val Pro Glu Gly Leu Trp Ala Ser Leu Gly Gln
                275
                                     280
Pro Asn Trp Asp Met Arg Asp Gly Phe Asp Ile Ser Gly Asn Pro
                290
                                     295
Trp Ile Cys Asp Gln Asn Leu Ser Asp Leu Tyr Arg Trp Leu Gln
                305
                                     310
Ala Gln Lys Asp Lys Met Phe Ser Gln Asn Asp Thr Arg Cys Ala
                                    325
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Gly Pro Glu Ala Val Lys Gly Gln Thr Leu Leu Ala Val Ala Lys
                                     340
Ser Gln
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160
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Thr Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu
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Gly Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
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Cys Trp Leu Leu Val Leu Val Leu Val Leu Val Ser Pro
Arg Gly Cys Arg Ala Arg Arg Gly Leu Arg Gly Leu Leu Met Ala
His Ser Gln Arg Leu Leu Phe Arg Ile Gly Tyr Ser Leu Tyr Thr
                 50
                                     55
Arg Thr Trp Leu Gly Tyr Leu Phe Tyr Arg Gln Gln Leu Arg Arg
                                     70
Ala Arg Asn Arg Tyr Pro Lys Gly His Ser Lys Thr Gln Thr Arg
                                     85
                 80
Leu Phe Asn Gly Val Lys Val Leu Pro Ile Pro Val Leu Ser Asp
                 95
                                    100
Asn Tyr Ser Tyr Leu Ile Ile Asp Thr Gln Ala Gln Leu Ala Val
                                    115
                110
Ala Val Asp Pro Ser Asp Pro Arg Ala Val Gln Ala Ser Ile Glu
                                    130
                125
Lys Glu Gly Val Thr Leu Val Ala Ile Leu Cys Thr His Lys His
                                    145
                140
Trp Asp His Ser Gly Gly Asn Arg Asp Leu Ser Arg Arg His Arg
                155
Asp Cys Arg Val Tyr Gly Ser Pro Gln Asp Gly Ile Pro Tyr Leu
                170
                                    175
Thr His Pro Leu Cys His Gln Asp Val Val Ser Val Gly Arg Leu
                185
                                    190
Gln Ile Arg Ala Leu Ala Thr Pro Gly His Thr Gln Gly His Leu
                200
                                    205
Val Tyr Leu Leu Asp Gly Glu Pro Tyr Lys Gly Pro Ser Cys Leu
                215
                                    220
Phe Ser Gly Asp Leu Leu Phe Leu Ser Gly Cys Gly Arg Thr Phe
               230
                                    235
Glu Gly Asn Ala Glu Thr Met Leu Ser Ser Leu Asp Thr Val Leu
                245
                                    250
Gly Leu Gly Asp Asp Thr Leu Leu Trp Pro Gly His Glu Tyr Ala
Glu Glu Asn Leu Gly Phe Ala Gly Val Val Glu Pro Glu Asn Leu
                                    280
                                                         285
                275
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Ala Arg Glu Arg Lys Met Gln Trp Val Gln Arg Gln Arg Leu Glu
                290
                                    295
                                                        300
Arg Lys Gly Thr Cys Pro Ser Thr Leu Gly Glu Glu Arg Ser Tyr
                305
                                    310
                                                        315
Asn Pro Phe Leu Arg Thr His Cys Leu Ala Leu Gln Glu Ala Leu
                320
Gly Pro Gly Pro Gly Pro Thr Gly Asp Asp Asp Tyr Ser Arg Ala
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                335
Gln Leu Leu Glu Glu Leu Arg Arg Leu Lys Asp Met His Lys Ser
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                350
Lys
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Ser	Ser	Ser	Gly	Gly 35	Arg	Gly	Gly	Ala	Glu 40	Pro	Arg	Pro	Leu	Pro 45
Leu	Ser	Tyr	Arg	Leu 50	Leu	Asp	Gly	Glu	Ala 55	Ala	Leu	Pro	Ala	Val 60
Val	Phe	Leu	His	Gly 65	Leu	Phe	Gly	Ser	Lys 70	Thr	Asn	Phe	Asn	Ser 75
Ile	Ala	Lys	Ile	Leu 80	Ala	Gln	Gln	Thr	Gly 85	Arg	Arg	Val	Leu	Thr 90
Val	Asp	Ala	Arg	Asn 95	His	Gly	Asp	Ser	Pro 100	His	Ser	Pro	Asp	Met 105
Ser	Tyr	Glu	Ile	Met 110	Ser	Gln	Asp	Leu	Gln 115	Asp	Leu	Leu	Pro	Gln 120
Leu	Gly	Leu	Val	Pro 125	Cys	Val	Val	Val	Gly 130	His	Ser	Met	Gly	Gly 135
Lys	Thr	Ala	Met	Leu 140	Leu	Ala	Leu	Gln	Arg 145	Pro	Glu	Leu	Val	Glu 150
Arg	Leu	Ile	Ala	Val 155	Asp	Ile	Ser	Pro	Val 160	Glu	Ser	Thr	Gly	Val 165
Ser	His	Phe	Ala	Thr 170	Tyr	Val	Ala	Ala	Met 175	Arg	Ala	Ile	Asn	Ile 180
Ala	Asp	Glu	Leu	Pro 185	Arg	Ser	Arg	Ala	Arg 190	Lys	Leu	Ala	Asp	Glu 195
Gln	Leu	Ser	Ser	Val 200	Ile	Gln	Asp	Met	Ala 205	Val	Arg	Gln	His.	Leu 210
Leu	Thr	Asn	Leu	Val 215	Glu	Val	Asp	Gly	Arg 220	Phe	Val	Trp	Arg	Val 225
Asn	Leu	Asp	Ala	Leu	Thr	Gln	His	Leu	Asp	Lys	Ile	Leu	Ala	Phe

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230
                                    235
Pro Gln Arg Gln Glu Ser Tyr Leu Gly Pro Thr Leu Phe Leu Leu
                                    250
Gly Gly Asn Ser Gln Phe Val His Pro Ser His His Pro Glu Ile
                                    265
                260
Met Arg Leu Phe Pro Arg Ala Gln Met Gln Thr Val Pro Asn Ala
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Gly His Trp Ile His Ala Asp Arg Pro Gln Asp Phe Ile Ala Ala
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Ile Arg Gly Phe Leu Val
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Ser Arg Leu Tyr Gln Trp Ser Leu Lys Ser Ser Ala Gln Phe Leu
                 35
                                     40
Gly Ser Pro Gln Leu Arg Gln Val Gly Gln Ile Ile Arg Val Pro
                 50
                                     55
Ala Arg Met Ala Ala Thr Leu Ile Leu Glu Pro Ala Gly Arg Cys
                 65
                                     70
Cys Trp Asp Glu Pro Val Arg Ile Ala Val Arg Gly Leu Ala Pro
                 80
                                     85
Glu Gln Pro Val Thr Leu Arg Ala Ser Leu Arg Asp Glu Lys Gly
                 95
                                     100
Ala Leu Phe Gln Ala His Ala Arg Tyr Arg Ala Asp Thr Leu Gly
                                     115
Glu Leu Asp Leu Glu Arg Ala Pro Ala Leu Gly Gly Ser Phe Ala
                                    130
                125
Gly Leu Glu Pro Met Gly Leu Leu Trp Ala Leu Glu Pro Glu Lys
                140
                                    145
Pro Leu Val Arg Leu Val Lys Arg Asp Val Arg Thr Pro Leu Ala
                155
                                    160
Val Glu Leu Glu Val Leu Asp Gly His Asp Pro Asp Pro Gly Arg
                170
                                    175
Leu Leu Cys Gln Thr Arg His Glu Arg Tyr Phe Leu Pro Pro Gly
                185
                                    190
Val Arg Arg Glu Pro Val Arg Val Gly Arg Val Arg Gly Thr Leu
                                    205
Phe Leu Pro Pro Glu Pro Gly Pro Phe Pro Gly Ile Val Asp Met
                                     220
Phe Gly Thr Gly Gly Leu Leu Glu Tyr Arg Ala Ser Leu Leu
                                     235
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Ala Gly Lys Gly Phe Ala Val Met Ala Leu Ala Tyr Tyr Asn Tyr
                245
                                    250
Glu Asp Leu Pro Lys Thr Met Glu Thr Leu His Leu Glu Tyr Phe
                                    265
                                                         270
                260
Glu Glu Ala Met Asn Tyr Leu Leu Ser His Pro Glu Val Lys Gly
                275
                                    280
Pro Gly Val Gly Leu Leu Gly Ile Ser Lys Gly Glu Leu Cys
                290
                                    295
Leu Ser Met Ala Ser Phe Leu Lys Gly Ile Thr Ala Ala Val Val
                305
                                    310
Ile Asn Gly Ser Val Ala Asn Val Gly Gly Thr Leu Arg Tyr Lys
                320
                                    325
Gly Glu Thr Leu Pro Pro Val Gly Val Asn Arg Asn Arg Ile Lys
                335
                                    340
Val Thr Lys Asp Gly Tyr Ala Asp Ile Val Asp Val Leu Asn Ser
                350
                                    355
Pro Leu Glu Gly Pro Asp Gln Lys Ser Phe Ile Pro Val Glu Arg
                                    370
                365
Ala Glu Ser Thr Phe Leu Phe Leu Val Gly Gln Asp Asp His Asn
                380
                                    385
Trp Lys Ser Glu Phe Tyr Ala Asn Glu Ala Cys Lys Arg Leu Gln
                                     400
                395
Ala His Gly Arg Arg Lys Pro Gln Ile Ile Cys Tyr Pro Glu Thr
                410
                                    415
Gly His Tyr Ile Glu Pro Pro Tyr Phe Pro Leu Cys Arg Ala Ser
                425
                                    430
Leu His Ala Leu Val Gly Ser Pro Ile Ile Trp Gly Gly Glu Pro
                440
                                    445
Arg Ala His Ala Met Ala Gln Val Asp Ala Trp Lys Gln Leu Gln
                455
                                    460
Thr Phe Phe His Lys His Leu Gly Gly His Glu Gly Thr Ile Pro
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                                                         480
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Ser Lys Val
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 Leu
 Trp
 Val
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 Val
 Ala
 Ala
 Leu
 Ala
 Leu
 Ala
 Leu
 Ala
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 Leu
 Leu
 Ala
 15

 Val
 Leu
 Ala
 Gly
 Glu
 Glu
 Arg
 Arg
 Arg
 Ala
 Ala
 Ala
 Lys

 Ala
 Pro
 Asn
 Val
 Leu
 Val
 Val
 Ser
 Asp
 Ser
 Phe
 Asp
 Gly
 Arg

 Leu
 Thr
 Phe
 His
 Pro
 Gly
 Ser
 Gly
 Val
 Lys
 Leu
 Pro
 Phe
 Ite

 Asn
 Phe
 Met
 Lys
 Thr
 Arg
 Gly
 Thr
 Ser
 Phe
 Leu
 Asn
 Ala
 Tyr
 Thr

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70
                 65
Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly
                80
                                     85
Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu
                 95
                                    100
Asp Pro Asn Tyr Thr Trp Met Asp Val Met Glu Arg His Gly
                110
                                    115
Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His
                125
                                    130
His Ser Ile Ser Asn Arg Val Glu Ala
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                                     25
Glu Asp Glu Val Leu Leu Val Ser Ser Ser Arg Tyr Pro Asp Gln
                 35
                                     40
Trp Ile Val Pro Gly Gly Met Glu Pro Glu Glu Glu Pro Gly
                 50
                                     55
Gly Ala Ala Val Arg Glu Val Tyr Glu Glu Ala Gly Val Lys Gly
                                     70
                 65
Lys Leu Gly Arg Leu Leu Gly Ile Phe Glu Asn Gln Asp Arg Lys
                                     85
His Arg Thr Tyr Val Tyr Val Leu Thr Val Thr Glu Ile Leu Glu
                                    100
                 95
Asp Trp Glu Asp Ser Val Asn Ile Gly Arg Lys Arg Glu Trp Phe
                                    115
Lys Val Glu Asp Ala Ile Lys Val Leu Gln Cys His Lys Pro Val
                                    130
                                                         135
                125
His Ala Glu Tyr Leu Glu Lys Leu Lys Leu Gly Cys Ser Pro Ala
                                    145
                140
Asn Gly Asn Ser Thr Val Pro Ser Leu Pro Asp Asn Asn Ala Leu
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                                    160
                                                         165
Phe Val Thr Ala Ala Gln Thr Ser Gly Leu Pro Ser Ser Val Arg
                                    175
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Asp Trp Ser Thr Leu Val Pro Leu Arg Leu Arg His Arg Gln Leu
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Phe Trp Ile Phe Gly Gly Ser Ile His Tyr Phe Arg Val Pro Arg
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Glu Tyr Trp Arg Asp Arg Leu Leu Lys Met Lys Ala Cys Gly Leu
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Asn Thr Leu Thr Thr Tyr Val Pro Trp Asn Leu His Glu Pro Glu
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Arg Gly Lys Phe Asp Phe Leu Trp Glu Thr Trp Thr Leu Lys Ala
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Phe Val Leu Met Ala Ala Glu Ile Gly Leu Trp Val Ile Leu Arg
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Pro Gly Pro Tyr Ile Cys Ser Glu Met Asp Leu Gly Gly Leu Pro
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Lys Gly Phe Thr Glu Ala Val Asp Leu Tyr Phe Asp His Leu Met
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Ser Arg Val Val Pro Leu Gln Tyr Lys Arg Gly Pro Ile Ile
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Ala Val Gln Val Glu Asn Glu Tyr Gly Ser Tyr Asn Lys Asp Pro
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Ala Tyr Met Pro Tyr Val Lys Lys Ala Leu Glu Asp Arg Gly Ile
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Val Glu Leu Leu Thr Ser Asp Asn Lys Asp Gly Leu Ser Lys
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Gly Ile Val Gln Gly Val Leu Ala Thr Ile Asn Leu Gln Ser Thr
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His Glu Leu Gln Leu Leu Thr Thr Phe Leu Phe Asn Val Gln Gly
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Thr Gln Pro Lys Met Val Met Glu Tyr Trp Thr Gly Trp Phe Asp
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Ser Trp Gly Gly Pro His Asn Ile Leu Asp Ser Ser Glu Val Leu
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Lys Thr Val Ser Ala Ile Val Asp Ala Gly Ser Ser Ile Asn Leu
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Tyr Met Phe His Gly Gly Thr Asn Phe Gly Phe Met Asn Gly Ala
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Met His Phe His Asp Tyr Lys Ser Asp Val Thr Ser Tyr Asp Tyr
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Asp Ala Val Leu Thr Glu Ala Gly Asp Tyr Thr Ala Lys Tyr Met
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Lys Leu Arg Asp Phe Phe Gly Ser Ile Ser Gly Ile Pro Leu Pro
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Pro Pro Pro Asp Leu Leu Pro Lys Met Pro Tyr Glu Pro Leu Thr
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Glu Pro Ile Lys Ser Glu Lys Pro Ile Asn Met Glu Asn Leu Pro
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Thr Ser Ile Thr Ser Ser Gly Ile Leu Ser Gly His Val His Asp
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Arg Gly Gln Val Phe Val Asn Thr Val Ser Ile Gly Phe Leu Asp
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Tyr Lys Thr Thr Lys Ile Ala Val Pro Leu Ile Gln Gly Tyr Thr
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Val Leu Arg Ile Leu Val Glu Asn Arg Gly Arg Val Asn Tyr Gly
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Glu Asn Ile Asp Asp Gln Arg Lys Gly Leu Ile Gly Asn Leu Tyr
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Leu Asn Asp Ser Pro Leu Lys Asn Phe Arg Ile Tyr Ser Leu Asp
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Ser Leu Pro Glu Thr Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser
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Leu Ser Ile Ser Ser Thr Pro Cys Asp Thr Phe Leu Lys Leu Glu
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Gly Trp Glu Lys Gly Val Val Phe Ile Asn Gly Gln Asn Leu Gly
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Arg Tyr Trp Asn Ile Gly Pro Gln Lys Thr Leu Tyr Leu Pro Gly
Pro Trp Leu Ser Ser Gly Ile Asn Gln Val Ile Val Phe Glu Glu
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Ser Ser Phe Asp Arg Leu Ile Pro Leu Leu Pro Gln Asp Phe Tyr
Tyr Val Ala Met Asp Phe Gly Gly His Gly Leu Ser Ser His Tyr
                                     70
Ser Pro Gly Val Pro Tyr Tyr Leu Gln Thr Phe Val Ser Glu Ile
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Arg Arg Val Val Ala Ala Leu Lys Trp Asn Arg Phe Ser Ile Leu
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Gly His Ser Phe Gly Gly Val Val Gly Gly Met Phe Phe Cys Thr
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Phe Pro Glu Met Val Asp Lys Leu Ile Leu Leu Asp Thr Pro Leu
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Phe Leu Leu Glu Ser Asp Glu Met Glu Asn Leu Leu Thr Tyr Lys
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Arg Arg Ala Ile Glu His Val Leu Gln Val Glu Ala Ser Gln Glu
                                    160
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Pro Ser His Val Phe Ser Leu Lys Gln Leu Gln Arg Leu Leu
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Lys Ser Asn Ser His Leu Ser Glu Glu Cys Gly Glu Leu Leu
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Gln Arg Gly Thr Thr Lys Val Ala Thr Gly Leu Val Leu Asn Arg
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Asp Gln Arg Leu Ala Trp Ala Glu Asn Ser Ile Asp Phe Ile Ser
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Arg Glu Leu Cys Ala His Ser Ile Arg Lys Leu Gln Ala His Val
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Leu Leu Ile Lys Ala Val His Gly Tyr Phe Asp Ser Arg Gln Asn
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Tyr Ser Glu Lys Glu Ser Leu Ser Phe Met Ile Asp Thr Met Lys
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Ser Thr Leu Lys Glu Gln Phe Gln Phe Val Glu Val Pro Gly Asn
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His Cys Val His Met Ser Glu Pro Gln His Val Ala Ser Ile Ile
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Val Asn His Val Arg Asp Lys Leu Arg Glu Ile Val Gly Ala Ser
Thr Asn Trp Arg Asp His Val Lys Ala Met Glu Glu Arg Lys Leu
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Leu His Ser Phe Leu Ala Lys Ser Gln Asp Gly Leu Pro Pro Arg
Arg Met Lys Asp Ser Tyr Ile Glu Val Leu Leu Pro Leu Gly Ser
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Glu Pro Glu Leu Arg Glu Lys Tyr Leu Thr Val Gln Asn Thr Val
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Arg Phe Gly Arg Ile Leu Glu Asp Leu Asp Ser Leu Gly Val Leu
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Ile Cys Tyr Met His Asn Lys Ile His Ser Ala Lys Met Ser Pro
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Leu Ser Ile Val Thr Ala Leu Val Asp Lys Ile Asp Met Cys Lys
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Lys Ser Leu Ser Pro Glu Gln Asp Ile Lys Phe Ser Gly His Val
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Ser Trp Val Gly Lys Thr Ser Met Glu Val Lys Met Gln Met Phe
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Gln Leu His Gly Asp Glu Phe Cys Pro Val Leu Asp Ala Thr Phe
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Val Met Val Ala Arg Asp Ser Glu Asn Lys Gly Pro Ala Phe Val
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Asn Pro Leu Ile Pro Glu Ser Pro Glu Glu Glu Leu Phe Arg
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Gln Gly Glu Leu Asn Lys Gly Arg Arg Ile Ala Phe Ser Ser Thr
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Ser Leu Leu Lys Met Ala Pro Ser Ala Glu Glu Arg Thr Thr Ile
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His Glu Met Phe Leu Ser Thr Leu Asp Pro Lys Thr Ile Ser Phe
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Arg Ser Arg Val Leu Pro Ser Asn Ala Val Trp Met Glu Asn Ser
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Lys Leu Lys Ser Leu Glu Ile Cys His Pro Gln Glu Arg Asn Ile
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Phe Asn Arg Ile Phe Gly Gly Phe Leu Met Arg Lys Ala Tyr Glu
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Leu Ala Trp Ala Thr Ala Cys Ser Phe Gly Gly Ser Arg Pro Phe
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Val Val Ala Val Asp Asp Ile Met Phe Gln Lys Pro Val Glu Val
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Gly Ser Leu Leu Phe Leu Ser Ser Gln Val Cys Phe Thr Gln Asn
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Asn Tyr Ile Gln Val Arg Val His Ser Glu Val Ala Ser Leu Gln
Glu Lys Gln His Thr Thr Thr Asn Val Phe His Phe Thr Phe Met
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